



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D6101-007
Job Sheet 175795



5066608

Part No: D6101-007

Job Qty: 10 ea

Part Name: Saddle Billet



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/10/18

Job Tracking No:

Due Date: 5/2/18

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG REV B

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	10 pcs		5/2/18	0.00	0.00	Purchasing		DAS APR 28 2018
110	Packaging	10 pcs		5/2/18	0.00	0.00	Packaging2		11 APR 28 2018
120	QC	10 pcs		5/2/18	0.00	0.00	QC6		9-89 APR 28 2018
130	Packaging	10 pcs		5/2/18	0.00	0.00	Packaging3-2		DAS
140	QC21-SA	10 Ea		5/2/18	0.00	0.00	QC21		21 APR 30 2018

Part Op 100 - Issue P/O: 39228

b) 7.750" x 8.250" x 2.50" thick d) Grain direction along 7.750" length

Descriptions: 110 - Ensure material certification is attached

120 - Ensure Material certification comply to Dwg D6101

130 - LOCATION: MAT041

APR 10 2018

CZ

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6101-007P	7075-T7351 8.25X7.75X2.5	10 pcs (1 ea)	100-Purchasing	

Job Allocations

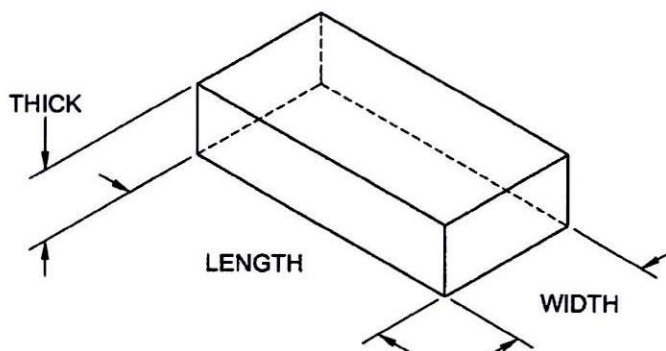
Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6101-007P	10	20	0

Part Specifications

Specifications could not be found.

Plex 4/10/18 2:59 PM dart.lavoie.chantal

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

B

RELEASED
09/07/15/W

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 06101-007
 DATE: APR 28 2018

PO / BATCH NO.: 039228/5066542

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 20 pcs
 QUANTITY INSPECTED: 20 pcs
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.500
 THICKNESS RECEIVED: 2.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>N</u>	
CORRECT FINISH	<u>Y</u>	N	
CORROSION	Y	<u>N</u>	
CORRECT GRAIN DIRECTION	<u>Y</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>Y</u>	N	<u>QQA-250/12</u>
CORRECT THICKNESS	<u>Y</u>	N	
PHOTO REQUIRED	Y	<u>N</u>	
CORRECT REF # TO LINK CERT	<u>Y</u>	N	<u>Heat # 234821B1-9413628</u>
CORRECT MATERIAL IDENTIFICATION	<u>Y</u>	N	
CORRECT M# ON THE MATERIAL	<u>Y</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3580173

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 26-APR-18	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 3580173-2	

Shipment Details	Final Destination Branch - TOR
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Order No	Line No	Item No	Description	
5108745	2	752241.MO	2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT RECTANGLE TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	
Purchase Order No		Part Number	Ordered Qty	Invoice Qty
39228		YOUR ITEM NUMBER: D6101-007	20.00 PCS	20.00 PCS

Details	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS
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Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
121772890	KAISER ALUMINUM			6			99.1901
121772890	CONSTELLUM ROLLED PRODUCTS			14			231.4436

Date Printed: 26-APR-2018 04:01:48 PM



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material not to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

Name:



APR 26 2018



Constellium Rolled Products
Ravenswood, LLC

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A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216
US

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A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523
US

A M CASTLE		110644526		4776		INCLUSION		Serial:20180405-0110644526		Pg 1of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 453753						Constellium ORDER NO. 232825					
ALLOY 7075		CLAD		TEMPER T7351		GAUGE 2.50000 in 63.50 mm		WIDTH 48.50000 in 1,232 mm		LENGTH 144.50000 in 3,670 mm	
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS 4078J											
PART NUMBER 752241				B/L NUMBER 97582				DATE SHIPPED 04/05/2018			
WT. SHIPPED 10620.000 LB				NO. OF PIECES 000006				GOVT. CONTRACT NO.			
										CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA	
										 Dave Dunbarger - Laboratory Manager	

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:

ASTM B594 REV 13 2013 100% SONIC W/ 0.12" DEADZONE Class A
AMS QQ-A-250/12A
AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE
ASTM B209-14
BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE
CMMP025 REV U
CSTI006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE
DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE
GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE
MMS 159T
PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

Load Details

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001745311	1,770.000	802.858	9413626	01		
1001745311	1,770.000	802.858	9413626	02		
1001745312	1,770.000	802.858	9413626	03		
1001745312	1,770.000	802.858	9413626	04		
1001754246	1,770.000	802.858	9413628	01		
1001754246	1,770.000	802.858	9413628	02		

Lot: 9413626 (See test results below)

Tensile - Room Temperature (US)

		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	75.7	76.0	64.2	64.7	11.5	12.0	





Constellium Rolled Products
Ravenswood, LLC

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A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216
US

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A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523
US

A M CASTLE		110644526		4776		INCLUSION		Serial:20180405-0110644526		Pg 2of3					
CUSTOMER PURCHASE ORDER NO. & ITEM 453753						Constellium ORDER NO. 232825									
ALLOY 7075		CLAD		TEMPER T7351		GAUGE 2.50000 in 63.50 mm		WIDTH 48.50000 in 1,232 mm		LENGTH 144.50000 in 3,670 mm					
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH						CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA  Dave Dunbarger - Laboratory Manager									
CUSTOMER SPECIFICATION AMS 4078J				PART NUMBER 752241								B/L NUMBER 97582		DATE SHIPPED 04/05/2018	
WT. SHIPPED 10620.000 LB				NO. OF PIECES 000006								GOVT. CONTRACT NO.			
Tensile - Room Temperature (SI)															
		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report							
Direction	Tests	Min	Max	Min	Max	Min	Max								
LT	02	522	524	443	446	11.5	12.0								
Conductivity						% IACS MIN 40.0 MAX 40.1 % MS/M MIN 23.2 MAX 23.3									
Chemistry (Actual)															
	SI	FE	CU	MN	MG	CR	ZN	TI	ZR						
Core	0.05	0.11	1.41	0.05	2.57	0.20	5.55	0.04	0.00						
OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER															
All material contained in this lot was cast and manufactured in the USA															
Lot: 9413628 (See test results below)															
Tensile - Room Temperature (US)															
		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report							
Direction	Tests	Min	Max	Min	Max	Min	Max								
LT	02	74.6	74.8	63.6	63.8	12.5	12.5								





Constellium Rolled Products
Ravenswood, LLC

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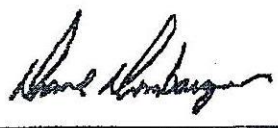
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A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216
US

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A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523
US

A M CASTLE		110644526		4776		INCLUSION		Serial:20180405-0110644526		Pg 3of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 453753						Constellium ORDER NO. 232825					
ALLOY 7075		CLAD		TEMPER T7351		GAUGE 2.50000 in 63.50 mm		WIDTH 48.50000 in 1,232 mm		LENGTH 144.50000 in 3,670 mm	
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS 4078J											
PART NUMBER 752241				B/L NUMBER 97582				DATE SHIPPED 04/05/2018			
WT. SHIPPED 10620.000 LB				NO. OF PIECES 000006				GOVT. CONTRACT NO.			
 Dave Dunbarger - Laboratory Manager											
Tensile - Room Temperature (SI)											
		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report			
Direction	Tests	Min	Max	Min	Max	Min	Max				
LT	02	514	516	439	440	12.5	12.5				
Conductivity % IACS MIN 40.0 MAX 40.9 % MS/M MIN 23.2 MAX 23.7											
Chemistry (Actual)											
	SI	FE	CU	MN	MG	CR	ZN	TI	ZR		
Core	0.05	0.10	1.44	0.04	2.59	0.19	5.58	0.04	0.00		
OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER											
All material contained in this lot was cast and manufactured in the USA											
QUALITY TEXTS: AMC CA-15413B R 6											
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. CHEMISTRY BY OES: ARKSPARK CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399 WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8: B557 DUNS Number: 090570149; CAGE Code: 1YW19 Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product. "END OF CERTIFICATION"											
P-860-155D REVISED: 01 2018											



SHIP TO:

A M CASTLE & CO
3050 SOUTH HYDRAULIC
WICHITA, KS 67216

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number

4478468

SOLD TO:

AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 432057-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 752241	SHIP RUN/LOAD: 104045/12	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1242879-1	SHIP DATE: 19-SEP-2017	ALLOY: 7075	CLAD: BARE	TEMPER: T7351
PRODUCT DESCRIPTION: KaiserSelect Plate	WEIGHT SHIPPED: 3612 LB	QUANTITY: 2 PCS EST.	TRUCK B/L #: 2069069	GAUGE: 2.5000 IN (63.5000 MM)
DIAMETER/WIDTH: 48.500 IN (1231.9 MM)	LENGTH: 144.500 IN (3670.3 MM)			

MHU 2149407: LOT 234881B1: 1 pieces;

MHU 2150619: LOT 234932B2: 1 pieces;

Certified Specifications

AMS 4078/RevJ
ASTM B 209/Rev14
BSS 7055/RevB
DPS 4.713/RevAK
GSS16100/RevG/Amd1
PS 21211/RevP

AMS-QQ-A-250/12/RevA
ASTM B 594/Rev13
CMMP 025/RevV
EAC MS1011/RevE
MMS 159/RevT

AMS-STD-2154/RevC
BAC 5439/RevJ
CSTI 006/RevE
GAMPS 9101/RevB/AmdSCN1
PPS 20.04/Rev7

Test Code: 4297

Lot: 234881B1

Cast 521

Drop 13

Test Results

Ingot 1

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	72.1 : 74.1 (497 : 511)	61.0 : 63.7 (421 : 439)	10.1 : 12.2

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	39.4 Min	39.8 Max
(MS/M) :	22.9 Min	23.1 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.07	0.13	1.5	0.03	2.6	0.21	5.7	0.02	0.01	0.01	TOT 0.03



KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4478468

Lot: 234932B2 Cast 521 Drop 32 Ingot 2 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.8 : 70.9 (488 : 489)	60.0 : 60.3 (414 : 416)	11.9 : 12.7

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	39.0 Min	39.0 Max
(MS/M) :	22.6 Min	22.6 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.17	1.5	0.04	2.4	0.19	5.6	0.03	0.01	0.01	TOT 0.03

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS
AMC CA-15413B R 6

TEST NOTES

Metal represented by this test report was 100% Type I
(immersion) ultrasonically tested from one side with 3mm
dead zones top and bottom and meets the Class A and Class B
requirements of all specifications referenced on this test
report. No surface marking of sonic indications is
performed.

CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.

All test equipment and measuring devices are calibrated and certified in accordance with applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.

* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.

* has been thermally processed in compliance with AMS 2772, where applicable.

* is mercury free, within the limits of detection of ASTM E1215 (<1ppm).

* is in compliance with RoHS 2, European Union Directive 2011/65/EU.

* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.

* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd Frank Act.

* is free of weld repair.

* meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.



JAMES HEMENWAY, TECHNICAL PROCESS MANAGER

